REMARKS

Prosecution has been reopened in view of the Appeal Brief filed on 15 November 2007.

Claim Status

Claim 1 is amended in view of the Examiner's objection to Claim 1 as described below.

Claims 1-34 are currently pending.

Objections to Claim 1

The Examiner objects to Claim 1, stating that in line 9, "a least one of" should be "at least one of" and that in line 12, "connection said pivotal" should be "connection with said pivotal." Claim 1 has been amended to comply with the Examiner's requirements. Accordingly, Applicants respectfully submit that the objections to Claim 1 are fully overcome.

Rejection Under 35 U.S.C. §103, Tanaka in view of Chung

Claims 1-7, 13-18, 27, 28, 32 and 34 stand rejected under 35 U.S.C. 103(a) as being unpatentable over by Tanaka (US 6,283,267 B1) in view Chung (US 5,788,047).

Regarding Claims 1, 13, 27, 32 and 34, the Office Action states that Tanaka discloses a coin separator and rejector body, as illustrated in figures 1-6, having two or more segments (23, 31) hinged together in pivotal connection, the hinged segments defining one or more downwardly inclined coin races formed between the hinged segments, as illustrated in figures 6 and 11 and mentioned at Col. 4, lines 4-12, the rejector body having an upstream portion (left portion of figures 6 and 11) and a

downstream portion (right portion of figures 6 and 11), the coin races further having a first wall and a second wall, at least a portion of one of the walls in pivotal connection with at least one of the hinged segments of the separator and rejector body. The Office Action cites Col. 3, line 58 - Col. 4, line 12 as support.

Further regarding Claims 1, 13, 27, 32 and 34, the Office Action states that Tanaka further discloses one or more sensors (S) located in the upstream portion of the rejector body and an actuator (61, 72) in mechanical connection with the pivotal connection with the pivotal portion of the race wall.

Regarding Claims 2 and 28, the Office Action states that Tanaka further discloses a second sensor (S) located in a downstream portion of the rejector body, noting figure 4, which illustrates a sensor (S). The Office Action construes the location of the sensor as being located in an upstream portion of the of the body, with another sensor (S) being located further downstream. Regarding Claims 4, 15, the Office Action states that Tanaka further discloses that the actuators of Tanaka (61, 72) are solenoids.

The Office Action states that with respect to Claims 1, 13, 27, 32 and 34, Tanaka does not expressly disclose a programmed processor in electrical communication with the sensors and with the actuator pivoting the race wall from a closed position to an open position upon detection of a coin by the sensors. The Office Action states that Chung discloses the described programmed processor at Col. 3, lines 42-54, particularly, line 50, which states that a central processing unit (CPU) is used to effectuate element (41) based upon detection of the oscillator sensors (20).

The Office Action concludes that at the time of the invention, it would have been obvious to one of ordinary skill in the art to have used a programmed processor, as taught by Chung, to control the opening and closing of Tanaka's rejector body half based upon

output from Tanaka's sensors (S) since one ordinarily skilled would have recognized from Tanaka's disclosure that Chung's CPU would efficiently and accurately control the opening and closing of Tanaka's rejector body half.

Applicants respectfully submit that the Office Action fails to set forth a prima facie case of obviousness with respect to Claims 1, 13, 27, 32 and 34. As disclosed in Tanaka, it is the force of the coin itself that pivots the door 31 from an opened and closed position, rather than via an actuator activated by the sensing of coins by one or more sensors, as described and claimed in the present invention.

The Office Action identifies the "actuator" of Tanaka with reference to elements 61 and 72, which are identified by Tanaka as solenoids. See, e.g., Tanaka, Col. 4, lines 61-63 and Col. 5, lines 26-27. Tanaka's actuators are not in mechanical connection with the pivotal portion of the race wall and do not serve to open and close door 31 of Tanaka. As stated in Tanaka with respect to solenoid 61:

> As a result of this arrangement, when the solenoid 61 is turned on, the spring element 63 can pivot about 62. This pivotal movement causes the rod 65 to move and causes further the roller unit 53 to approach the door 31, as indicated by the two-headed arrow in FIG. 3. Thus, the coin guiding groove 56 and roller 53 unit are then placed into correspondence with the arcuate passageway 22. When the roller unit 53 approaches the door 31, it pushes the projecting part 39 of the stopper 37, as shown in FIG. 2. The projecting part or bump 3 is adjacent the projecting shaft 52. As a result of this pushing movement of the roller unit 53, the lower end portion of the stopper 37 is retracted and the coin falling down the arcuate passageway 22 will continue to roll down the arcuate passageway 22 adjacent to the fixed rail 71 in the main body frame 25.

Tanaka, Col. 5, lines 4-18.

With respect to solenoid 72, Tanaka states:

> When the solenoid 72 is in an off state, the movable rail 73 is located outside the main body frame 25. The stopper 75, however, is located inside the main body frame 25. With the solenoid in the off state, a coin running down the fixed rail 71 is blocked by the stopper 75 and can drop into a safe storage

> container (not shown). If the solenoid 72 is activated, however, the movable rail 73 is located inside the main body frame 25 and the stopper 75 is located outside the main body frame 25. With the solenoid 72 on, the coin will move down the movable rail 73 and will be subsequently guided by the main body frame 25 to drop, as shown by the arrow in FIG. 1, so that it can be accommodated in, for example, a coin hopper tank (not shown) that is in alignment with the exit passageway.

Tanaka, Col. 5, lines 36-49.

Neither "actuator" of Tanaka (61 and 72) operates to pivot a portion of the race wall from a closed position to an open position as described and claimed in the present invention. Rather, the pivoting of Tanaka's door 31 is accomplished by Tanaka's activator plate 24 (shown in Tanaka Figs. 4 & 6), which opens and closes door 31. Tanaka's activator plate 24 is not an "actuator" as described and claimed in the present invention. See, e.g., Col. 6, lines 49-52. The activator plate 24 operates when a coin of a larger than expected size is inserted into the device. Such a coin "cannot be moved by being placed between the circular arc passageway 22 and the roller 53. In this case, the arm plate 29 is opened and closed about the pivot 28 whereupon the large diameter coin will simply fall and be cancelled. The arm plate 29 will transmit the corresponding movement to the swing plate 26, while at the same time the door 31 will be opened or closed via the activator 24." Tanaka, Col. 6, lines 44-52. In Tanaka's case, it is the force of the falling coin of a larger than expected diameter that causes the door 31 to open and close.

Chung discloses oscillators that are serially connected to form a high or low frequency oscillating circuit 20a. Chung, Col. 3, lines 45-46. Chung's oscillators serve as coin detecting devices for analyzing the thickness, material and diameter of a coin 5 passing through the coin way 10, which provides data to a central processing unit in order to ascertain whether the coin is a "true or false one." Chung, Col, 3, lines 47-50. If the

coin is good, a signal is generated to trigger driving member 42, which rotates a pushing lever 421. Chung, Col. 4, lines 15-16. The front edge 410 of shifting member 41 is driven to abut against the first lateral wall 10a of the coin way 10. Chung, Col. 4, lines 16-18. The coin then slides outward along a first face 41a of the shifting member 41 and drops into a coin receiving passage 61 of the coin receiving device 200. Chung, Col. 4, lines 18-22.

Adapting the actuators of Tanaka to respond to the coin sensing oscillators of Chung would not result in the present invention. Nothing in either Tanaka or Chung show actuators in mechanical connection with the pivotal portion of a race wall. Moreover, neither Tanaka nor Chung show the use of a processor in electrical communication with one or more sensors and with the actuator to pivot the pivotal portion of the race wall from a closed position to an open position upon detection of a coin by one or more sensors as described and claimed in the present invention.

In view of Tanaka's mechanism for moving door 31, Tanaka teaches away from the present invention in that Tanaka uses the force of the coin to open door 31, and in response to a different condition. The condition in Tanaka is the presence of a coin of a diameter of a larger size than expected, rather than in response to the detection of a coin by a sensor as described and claimed in the present invention. (Also note that the sensors S of Tanaka are described as "counting sensors S" (Tanaka, Col. 5, lines 19-20) rather than as sensors for testing whether a coin is "true or false.") Moreover, even if the actuators of Tanaka were modified to respond to a processor, it would not result in the movement of the race wall as described and claimed in the present invention. Accordingly, Applicants respectfully submit that the Office Action fails to set forth a prima facie case of obviousness with respect to Claims 1, 13, 27, 32 and 34.

Regarding Claim 32, the Office Action states that Chung discloses that coin jamming is a problem in coin rejector bodies at Col. 1, lines 36-46. The Office Action concludes that it would have been obvious to one of ordinary skill in the art to have caused the rejector body halves of Tanaka to part if a predetermined time period is exceeded since sensing the first coins without the coins passing a second sensor. The Office Action further notes that section "e" of Claim 32 states "said programmed processor to receive a signal from said second sensor within a predetermined time period **upon** detection of an object by said first sensor..." Emphasis provided. The Office Action concludes that this passage indicates that operation of the processor is conditional and that if a coin never passes the first sensor, the condition will never be met. Therefore, the combination of Tanaka and Chung, as outlined above, is construed as meeting the limitations of this claim.

As described above, both Tanaka and Chung disclose different mechanisms that are contrary to the presently described and claimed invention. Neither Chung nor Tanaka disclose the pivoting of the race wall in response to an actuator, nor in response to an actuator in combination with a processor that would result in the opening of the rejector body halves as described and claimed in the present invention. Accordingly, Applicants respectfully submit that the Office Action fails to set forth a prima facie case of obviousness with respect to Claim 32.

Regarding Claims 7 and 18, the Office Action states that Chung further discloses that at least one of the sensors are induction coils, as illustrated in Figure 4 and Col. 3, lines 42-54. The Office Action concludes that it would have been obvious to make Tanaka's sensors induction coils for the purpose of determining coin thickness, material composition and diameter, as is well-known in the art. Applicants respectfully submit

that the Office Action fails to set forth a prima facie case of obviousness with respect to Claims 7 and 18. Chung's induction coils fail to alter the basic structure of Tanaka and Chung to arrive at the presently described and claimed invention. Therefore, the combination of Tanaka and Chung fail to present a prima facie case of obviousness with respect to Claims 7 and 18.

Regarding Claims 3, 14, the Office Action states that it would have been obvious to substitute an electric motor for Tanaka's solenoid for the purpose of decreasing cost and/or increasing accuracy. Regarding Claims 5, 16, the Office Action states that it would have been obvious to substitute a latching solenoid for Tanaka's solenoid for the purpose of remaking a circuit when the circuit is re-energized. Regarding Claims 6, 17, official notice is taken that it would have been obvious to substitute a wound cap solenoid for Tanaka's solenoid for the purpose of reducing costs.

Applicants respectfully submit that the Office Action fails to set forth a prima facie case of obviousness with respect to Claims 3, 5, 6, 14, 16 and 17. Substitution of the above-listed items for Tanaka's solenoid does not alter the basic configuration and structure of either Tanaka or Chung and would fail to arrive at the presently described and claimed invention. Therefore, the combination of Tanaka and Chung fail to set forth a prima facie case of obviousness with respect to Claim 3, 5, 6, 14, 16 and 17.

Rejection Under 35 U.S.C. §103, Tanaka in view of Chung & Neathway

Claims 8-11 and 19-22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka (US6,283,267 B1) in view Chung (US 5,788,047) and further in view of Neathway et al (US 6,227,343 B1). The Office Action states that Tanaka discloses the coin rejection system as described above.

The Office Action states that Tanaka does not expressly disclose, as described in Claims 8-11 and 19-22, the following:

a. one of said sensors is a Hall effect sensor;

b. one of said sensors is a photoelectric sensor;

c. one of said sensors is an LED sensor;

d. one of said sensors is an IR sensor;

The Office Action states that Neathway, Col. 1, lines 58-64, Col. 2, lines 3-9 and Col. 4, lines 17-30, discloses the missing subject matter. The Office Action concludes that at the time of the invention, it would have been obvious to a person of ordinary skill in the art to have used Hall effect, photoelectric, LED or IR sensors in the coin raceway of Tanaka. The Office Action states that the suggestion/motivation would have been to detect if the coin is made of ferrous metal by using a Hall effect sensor and to use an infrared/LED/photo diode system to detect coin diameter. See Chung, Col. 1, lines 58-64.

As discussed above, adapting the actuators of Tanaka to respond to the coin sensing oscillators of Chung would not result in the present invention. Nothing in either Tanaka or Chung show actuators in mechanical connection with the pivotal portion of a race wall. Moreover, neither Tanaka nor Chung show the use of a processor in electrical communication with one or more sensors and with the actuator to pivot the pivotal portion of the race wall from a closed position to an open position upon detection of a coin by one or more sensors as described and claimed in the present invention. Rather, in view of Tanaka's mechanism for moving door 31, Tanaka teaches away from the present invention in that it uses the force of the coin to open door 31, and in response to a different condition. The condition in Tanaka is the presence of a coin of a diameter of a

larger size than expected, rather than in response to the detection of a coin by a sensor as described and claimed in the present invention. (Also note that the sensors S of Tanaka are described as "counting sensors S" (Tanaka, Col. 5, lines 19-20) rather than as sensors for testing whether a coin is "true or false.") Moreover, even if the actuators of Tanaka were modified to respond to a processor, it would not result in the movement of the race wall as described and claimed in the present invention. Substituting the sensors of Neathway does not alter the basic configurations of Tanaka or Chung and would still fail to arrive at the presently described and claimed invention. Accordingly, Applicants respectfully submit that the Office Action fails to set forth a prima facie case of obviousness with respect to Claims 8-11 and 19-22.

Rejection Under 35 U.S.C. §103, Tanaka in view of Chung & Mercurio

Claims 12, 23, 29 and 30 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka (US 6,283,267 B1) in view Chung (US 5,788,047) and further in view of Mercurio (US 5,007,519). The Office Action states that Tanaka discloses the system described above. The Offices Action further states that Tanaka does not expressly disclose, as described in Claims, 12, 23, 29 and 30, "a light coin spring detector (70) positioned in the downstream portion of said rejector body," but that Mercurio discloses such at Col. 3, lines 48-68 and Col. 4, lines 1-4. The Office Action concludes that at the time of the invention, it would have been obvious to a person of ordinary skill in the art to have added a light coin spring detector in the downstream passageway of the rejector body of Tanaka. The Office Action states that the suggestion/motivation would have been to provide a further layer of security to insure correctly weighted coins are allowed

to pass through to the coin box, noting the abstract of Mercurio, the last 7 lines, in particular.

As described above, adapting the actuators of Tanaka to respond to the coin sensing oscillators of Chung would not result in the present invention. Nothing in either Tanaka or Chung show actuators in mechanical connection with the pivotal portion of a race wall. Moreover, neither Tanaka nor Chung show the use of a processor in electrical communication with one or more sensors and with the actuator to pivot the pivotal portion of the race wall from a closed position to an open position upon detection of a coin by one or more sensors as described and claimed in the present invention.

Rather, in view of Tanaka's mechanism for moving door 31, Tanaka teaches away from the present invention in that it uses the force of the coin to open door 31, and in response to a different condition. The condition in Tanaka is the presence of a coin of a diameter of a larger size than expected, rather than in response to the detection of a coin by a sensor as described and claimed in the present invention. (Also note that the sensors S of Tanaka are described as "counting sensors S" (Tanaka, Col. 5, lines 19-20) rather than as sensors for testing whether a coin is "true or false.")

Moreover, even if the actuators of Tanaka were modified to respond to a processor, it would not result in the movement of the race wall as described and claimed in the present invention. Moreover, the mechanism of Mercurio is fundamentally different than the mechanism of the present invention. Mercurio incorporates an adjustable weighting means 86 that allows the coin to proceed in a generally horizontal direction to a rejection means. See Mercurio, Col. 4, Lines 1-8. Coins of proper weight will be deflected by the adjustable weighting means 87 and allow a properly weighted coin to drop downwardly between plates 30 and 31 into a coin collection box, where

horizontal movement is arrested by a stop washer 54. See Mercurio, Col. 3, Lines 61-68 and Col. 4, Lines 1-4. However, unlike Mercurio, the present invention employs light coin stop springs to stop underweight coins, thereby triggering the rejector body to open, allowing the underweight con to fall from the rejectro body. Accordingly, Mercurio would have failed to suggest to one of ordinary skill in the art to stop underweight coins in a coin race. In view of the foregoing, Applicants respectfully submit that the Office Action fails to set forth a prima facie case of obviousness with respect to Claims 12, 23, 29 and 30.

Rejection Under 35 U.S.C. §103, Tanaka in view of Chung & Fougere

Claims 13 and 33 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka (US 6,283,267 B1) in view Chung (US 5,788,047) and further in view of Fougere (US 3,792,766). The Office Action states that Tanaka discloses the system described above. The Office Action states that Tanaka does not expressly disclose, as described in Claims 31 and 33, "a magnet (32) mounted adjacent said coin race in the upstream portion of said separator and rejector body," stating that the missing subject matter is disclosed by Fougere. The Office Action concludes that at the time of the invention, it would have been obvious to a person of ordinary skill in the art to have added a movable magnet in the downstream passageway of the rejector body of Tanaka. The Office Action states that the suggestion/motivation would have been to provide a further layer of security to insure that coins having a "magnetic permeability to density ratio in excess of a predetermined value" are eliminated from the raceway, citing the abstract of Fougere.

As described above, adapting the actuators of Tanaka to respond to the coin sensing oscillators of Chung would not result in the present invention. Nothing in either Tanaka or Chung show actuators in mechanical connection with the pivotal portion of a race wall. Moreover, neither Tanaka nor Chung show the use of a processor in electrical communication with one or more sensors and with the actuator to pivot the pivotal portion of the race wall from a closed position to an open position upon detection of a coin by one or more sensors as described and claimed in the present invention. Rather, in view of Tanaka's mechanism for moving door 31, Tanaka teaches away from the present invention in that it uses the force of the coin to open door 31, and in response to a different condition. The condition in Tanaka is the presence of a coin of a diameter of a larger size than expected, rather than in response to the detection of a coin by a sensor as described and claimed in the present invention. (Also note that the sensors S of Tanaka are described as "counting sensors S" (Tanaka, Col. 5, lines 19-20) rather than as sensors for testing whether a coin is "true or false.") Moreover, even if the actuators of Tanaka were modified to respond to a processor, it would not result in the movement of the race wall as described and claimed in the present invention. The addition of a magnet as described in Fougere would not result in the presently described and claimed invention. Accordingly, Applicants respectfully submit that the Office Action fails to set forth a prima facie case of obviousness with respect to Claims 31 and 33.

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In view of the foregoing Amendment to Claim 1 and the ensuing Remarks, Applicants submit that all the objections and rejections have been fully overcome and that the application is in proper form and condition for allowance. This response is filed concurrently

with a petition for a three-month extension of time. The Commissioner is authorized to charge the extension fee of $1110.00 for large entity to Deposit Account No. 08-3038/10356.0035.NPUS00. Should any additional fees be required for any reason relating to the enclosed materials, the Commissioner is authorized to deduct said fees from the same Deposit Account.

Respectfully submitted,

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Date: October 16, 2008